

# DOCUMENTED PLANT CHROMOSOME NUMBERS 1986:1. MISCELLANEOUS COUNTS IN *ASTER* (COMPOSITAE)

JERRY G. CHMIELEWSKI

*Department of Biology, University of Calgary,  
Calgary, Alberta, CANADA. T2N 1N4*

Semple et al. (1983) stated the need for chromosome counts of asters and other genera for the purpose of determining cytogeographic patterns. These patterns in turn could be used to determine the limits of distribution of infraspecific variants; in reconstructing biogeographic histories of species; in testing hypotheses on the evolution of infraspecific polyploidy; and in biosystematic studies (Strother 1972, Semple et al. 1983). With this purpose in mind, this paper reports chromosome number determinations to supplement the available counts in the genus *Aster*.

## MATERIALS AND METHODS

Chromosome counts were made from freshly prepared material following the procedures of Chmielewski and Semple (1983). Root-tips were taken from transplanted rootstocks of plants collected in the wild or from seedlings grown in the greenhouse. Mitotic metaphase cells were examined to determine the chromosome number of each individual. Voucher specimens were deposited in the Herbarium of the Department of Biology, University of Waterloo (WAT). In citation, *Chmielewski* is abbreviated to C.

## RESULTS

*ASTER* (VIRGULUS) × *AMETHYSTINUS* Nutt.  $2n = 10$ . CANADA. ONTARIO. **Brant Co.**: Tuscarora Township, 2.3 km SW of Sixty-nine Corners, C. 1768. **Perth Co.**: Ellice Township, Ellice Con. 4–5, 2.5 km W of Perth 12, C. 1864. **Peterborough Co.**: Asphodel Township, W of Asphodel Line 6 and Hwy 7, C. 2174.

*ASTER* *BOREALIS* (T. & G.) Prov.  $2n = 16$ . CANADA. SASKATCHEWAN. 14.5 km SW of Armit, W of North Armit River, Hooper & Baker 84091315, 84091316.

\_\_\_\_\_.  $2n = 32$ . CANADA. ONTARIO. **Bruce Co.**: St. Edmunds Township, Hwy 6, S of entrance to Cyprus Lake Provincial Park, C. & Ringuis 2040. **Oxford Co.**: East Oxford Township, intersection of Hwy 2

and Hwy 53, SE of Eastwood, *C. 1600*. **Wellington Co.:** Puslinch Township, Puslinch 7, 5 km N of Gore Rd. *C. 1355*. **SASKATCHEWAN.** Nitenai River, 7 km W of Hwy 163 and Hwy 9, *Hooper & Baker 84090806*.

**ASTER CILIOLATUS** Lindl.  $2n = 48$ . **CANADA.** **SASKATCHEWAN.** 8 km N of Usherville, coulee W of Hwy 9, *Hooper & Baker 84090703*.

**ASTER LANCEOLATUS** Willd.  $2n = 32$ . **CANADA.** **ONTARIO.** Wentworth Reg. Mun.: West Flamborough Township, Con. 6, 1.3 km W of Hamilton-Wentworth 4, *C. 1360*.

———.  $2n = 48$ . **CANADA.** **ONTARIO.** **Brant Co.:** Onondaga Township, Creek Rd., 2.1 km E of McBay Rd, *C. 1323*. **Essex Co.:** Sandwich West Township, Windsor Salt Factory, *C. 1515*. **Halton Co.:** Burlington City Limits; North Service Rd., S of Aldershot, *C. & C. 1541*. **Kent Co.:** Walpole Island, SE of town of Walpole Island, *C. 1526*. **Nipissing District:** Hwy 11, 1.4 km N of Strathcona Township line, S of Temagami. *C. & C. 1306*. **Nipissing District:** Gladman Township, Hwy 11, Marten River, *C. & C. 1310*. **Parry Sound District:** South Himsworth Township, Hwy 11, Trout Creek rest area, *C. & C. 1315*. **Timiskaming District:** Dymond Township, New Liskeard, intersection of Hwy 11 and 11B, *C. & C. 1281*. **Timiskaming District:** Casey Township, 3.4 km S of Belle Vallee, *C. & C. 1291*. **Timiskaming District:** Chamberlain Township, Hwy 11, picnic area S of intersection with Hwy 112, *C. & C. 1302*. **Timiskaming District:** Hwy 11, 5.9 km S of Latchford, *C. & C. 1304*. **Waterloo Reg. Mun.:** Wellesley Township, *C. 1337*. **Wellington Co.:** Guelph Township, Wellington 72, 0.5 km SE of Speedvale Rd. *C. 1350*. **QUEBEC.** Hwy 101, 9.6 km N of Ville Marie, Ile de College, *C. & C. 1285*. 0.5 km W of Hwy 101, at turnoff to Ile de College Rd., N of Ville Marie, *C. & C. 1289*. **SASKATCHEWAN.** 8 km SE of Somme, *Hooper & Baker 84090304*. Pepaw Lake, *Hooper & Baker 84090306*. McBride Lake, McBride Lake Rd. 1, *Hooper & Baker 84090307*. 3 km E and 3 km N of Somme, *Hooper 84091301*. Bertwell, 15 km NE Reserve, Etommami River, *Hooper & Baker 84091302*. 20 km S of Hudson Bay, intersection of Hwy 9 and Pepaw River, *Hooper & Baker 84091310*. 40 km N of Arran, Mink Creek and Woody Lake Rd, *Hooper 84091505*. 15 km NE of Weekes, S shore of Neely Lake, *Hooper 84091601*.

**ASTER aff. LONGIFOLIUS** Lam.  $2n = 64$ . **CANADA.** **ONTARIO.** **Oxford Co.:** East Zorra Township, NE of Cassel, *C. 1607*.

**ASTER NEMORALIS** Ait.  $2n = 18$ . **CANADA.** **ONTARIO.** **Nipissing District:** E of Huntsville, *C. & C. 1579, 1580*.

**ASTER PILOSUS** Willd.  $2n = 32$ . **CANADA.** **ONTARIO.** **Gray Co.:** Bentinck Township, 11 km E of Elmwood, *C. 2269*.

## ACKNOWLEDGEMENTS

The author thanks Susan Chmielewski and Dr. Gordon Ringius for their assistance and D.F. Hooper and L. Baker for collections from Saskatchewan. This work was funded by University of Waterloo and Ontario Graduate Scholarships to JGC and Natural Sciences and Engineering Research Council of Canada operating grants to Dr. J. C. Semple, University of Waterloo.

## REFERENCES

- CHMIELEWSKI, J. G. and J. C. SEMPLE. 1983. The cytogeography of *Aster lanceolatus*. III. Cytoecology in southern Ontario. *Can. J. Bot.* 61:1879–1886.
- SEMPLE, J. C., J. G. CHMIELEWSKI, and C. C. CHINNAPPA. 1983. Chromosome number determinations in *Aster* L. (Compositae) with comments on cytogeography, phylogeny and chromosome morphology. *Amer. J. Bot.* 70:1432–1443.
- STROTHER, J. L. 1972. Chromosome studies in western North American Compositae. *Amer. J. Bot.* 59:242–247.